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(19) **United States**(12) **Patent Application Publication****Goren et al.**(10) **Pub. No.: US 2021/0299207 A1**(43) **Pub. Date: Sep. 30, 2021**(54) **SYSTEMS, METHODS, AND KITS FOR  
DIAGNOSTICS AND TREATMENT OF VIRAL  
RESPIRATORY INFECTION**(71) Applicant: **Applied Biology, Inc.**, Irvine, CA (US)(72) Inventors: **Ofer A. Goren**, Irvine, CA (US); **John  
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**ABSTRACT**

Systems, methods, and kits for treating, preventing, and diagnosing viral infection using an androgen mediated pathway are described. Additionally, methods and kits for guiding treatment of viral respiratory disease are described by a method for testing for polymorphisms in the androgen receptor gene. Further, systems and methods for treatment of viral respiratory disease with various anti-androgens is detailed. Finally, systems, methods, and kits for treating, preventing, and diagnosing SARS-CoV-2 (COVID-19) are presented.